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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE.

In re Application of: Roger P. Hoffman

Serial No: 09/632,140

Examiner: M. Patterson

Filing Date: August 3, 2000

Art Unit: 1772

For: LAMINATED PACKAGE AND METHOD OF PRODUCING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

RESPONSE TO OFFICE ACTION

SIR:

The following is in response to the office Action dated September 16, 2003.

The Examiner has rejected claims 1-4 as being obvious over Merdem et al (U.S. Patent No. 5,057,359) in view of Cooper (U.S. Patent No. 5,002,186) and further in view of Arneson (U.S. Patent No. 4,128,169).

With regard to Claim 1, Merdem et al. disclose a laminated carton (column 3, lines 16-40) comprising a box (carton; column 3, lines 16-40) comprising a folded, secured composite sheet (laminate; column 3, lines 16-40); the sheet comprises a layer of unbleached paperboard (therefore a layer of unbleached cellulosic fibers; column 3, lines 16-57) having an inner surface and outer surface (paperboard; column 3, lines 16-40), an outer layer of greaseproof paper (therefore a separately formed paper having an inner surface and outer surface; column 3, lines 16-40), and adhesive between the inner surface of the outer layer and the outer surface of the inner layer, and serving to bond the outer layer to the inner layer (the adhesive comprises polyolefin layers; column 3, lines 16-40); polyolefin layers are also laminated to the inner

surface of the inner layer and outer surface of the outer layer (column 3, lines 49-67). With regard to the claimed aspect of the paper layers being 'uncorrugated,' Merdem et al do not disclose corrugation; the claimed aspect of the paper layers being 'uncorrugated' therefore reads on Merdem et al. Merdem et al fail to disclose a carton which is a beverage carrier and a layer having printed graphics disposed on its outer surface.

Merdem does not teach a laminated beverage carrier. As stated by the present invention a beverage carrier is a carrier, which holds beverage containers, such as beverage cans. Merdem is a beverage container that holds fruit juice, or liquids, not beverage cans. Merdem does not teach that the outer layer is a non-corrugated paper layer. Merdem teaches that the layers going from inside out are an adhesive layer, a greaseproof paper, a polyolefin layer, a base layer and a further adhesive layer. Merdem does not teach that there are printed graphics disposed on the outer surface of the paper. The adhesive layers may have dye pigments, which provide impermeability to light. Therefore printing on the paper would not be seen from the outside of the adhesive.

Merdem relates to a carton blank, especially for use for containers for food products composed to provide maximum safety against leakage from the container, and to safeguard against gas passage through the container wall. The carton blank is built up as a laminate of paperboard (1), and paper (2), of the greaseproof kind, an adhesive layer, such as polyolefin layer (3) being used, and said basic member (1, 2, 3) is on both sides provided with external layers (4, 5) of polyolefin. **The adhesive layers (3, 4, 5) may additionally, have dye pigments added to provide impermeability to light.** (Abstract).

A carton blank is based on a paperboard, which is laminated with a greaseproof paper, i.e., a paper of the sandwich paper or parchment paper kind, the lamination or adhesion between said two layers being provided by a gluing layer, for instance polyolefins or equivalent

components. **In manufacturing a container the paperboard surface should face outwards with the greaseproof paper facing inwards** (Col. 2, lines 16-19). Both external surfaces are coated with an adhesive layer, such as a polyolefin layer.

The greaseproof paper has good barrier qualities against fat, and is also used, e.g., as an insert in cartons for biscuits and the like (Col. 2, lines 66-68).

A carton blank intended for use in production of **containers for fruit juice** is based on a basic member built up from paperboard 1, which is laminated by the aid of a polyolefin layer 3, with a greaseproof paper 2. **Said basic member comprising said three layers 1, 2, and 3, is on the surface which is intended to form the outer face of the container coated with a polyethylene layer 4.** On the inner surface a polyethylene layer 5 is laminated. **The polyethylene coatings may have dye pigment added.** The greaseproof paper is manufactured from sulphate cellulose (Col. 3, lines 16-36).

Merdem relates to a carton blank having a build up in the form of a laminate consisting of a combination of paperboard and greaseproof paper, which is laminated and coated on both sides by the aid of an adhesive.

Merdem teaches a carton that provides for maximum safety against leakage from the container and to safeguard against gas passage through the container wall. (Abstract). The container described in Merdem relates to a tight gas barrier. (Col. 1 lines 11-17). Merdem describes the prior art as materials with perforated areas which are not gas proof, which goes against the principles of Merdem. The product of Merdem is impermeable to gas. Merdem further states that the carton blank should not be liable to fracture or crack which might puncture the gas tight layer. (Col. 2 lines 1-3). A product placed in the carton blank of Merdem “must be maintained in an oxygen free atmosphere”. (Col. 5, lines 2-5).

The Examiner states that Cooper teaches that it is well known in the art to use a paperboard carton as a beverage carrier, for the purpose of obtaining a container, which holds beverage containers tightly (column 1, lines 10-24). The desirability of providing for a paperboard carton, which is a beverage carrier in Merdem et al, which is a carton, would therefore be obvious to one of ordinary skill in the art.

Cooper relates to a paperboard carrier for beverage cans, the bottom of which tend to be deformed when subjected to sharp blows. The panel adjacent the can bottoms is formed of two sheets in face-to-face engagement. The interior face of the inner sheet contains a number of raised embossed portions against which the can bottoms abut. The embossed portions, which may be comprised of spaced embossed protrusions of circular or other shape, effectively increase the cushioning effect of the sheet and, in conjunction with the other sheet of the panel, protect the can bottom against damage. The embossed portions are arranged so as to contact the circumferential rims normally provided at the bottom of beverage cans.

The section cited by the examiner states:

Paperboard cartons or carriers are used to package a variety of different types of articles, including beverage containers. When used to package beverage cans some carriers are designed to receive the cans so that the ends of the cans are adjacent the side panels of the carrier while others are designed so that the cans are positioned with their tops adjacent the top panel and their bottoms adjacent the bottom panel. In either arrangement the cans are normally tightly held in place inside the carrier, with the ends of the cans engaging the adjacent panels. A common example is a carrier designed to hold twelve cans, with the can ends contacting the side panels of the carrier so tightly that the impressions of the can ends can be seen in the outer surface of the side panels.

The Examiner states that Arneson teaches that it is well known in the art to print the outer surface of a beverage carrier, for the purpose of displaying instructions regarding the containers (columns 5, lines 42-52).

Arneson relates to a wraparound type carrier package for a group of bottles arranged in row relation and transversely aligned pairs. The carrier package is formed from a flat blank of paper-board or similar foldable sheet material which is cut and scored so that it may be wrapped about the top and bottom of the bottles. Col. 5 lines 42-52 state that, "Appropriate instructions for removing and replacing the bottles may be printed on the carton surface.

The Examiner states that it therefore would have been obvious to have provided for the use of the paperboard carton as a beverage carrier in Merdem et al in order to obtain a container which holds beverage containers tightly as taught by Cooper and to have provided for a beverage container having a printed outer surface in order to display instructions regarding the containers as taught by Arneson.

Claim 1 requires a laminated beverage carrier for beverage containers. Merdem relates to a beverage container for juice or other liquids. Merdem as stated by the Examiner does not teach a beverage carrier for beverage containers. Both Cooper and Arneson relate to beverage carriers for holding cans. There is nothing taught in any of the references to combine the teachings. The invention of Merdem relates to an air-tight container. Obviously, the beverage carriers of Cooper and Arneson are not air-tight and therefore there is no teaching to combine the references. Therefore claim 1 is not obvious over Merdem in view of Cooper and Arneson. Further, claim 1 requires that the outer surface of the outer layer have printed graphics disposed thereon. Merdem teaches that the outer layer has an adhesive layer applied on it, and further that

it may have pigments which do not allow for the passage of light. Therefore, Merdem teaches against the use of a printed outer layer.

With regard to Claim 2, the Examiner states that Merdem et al discloses the use of unbleached Kraft paper as the material of the paperboard (column 3, lines 49-58); the claimed aspect of the Kraft paper comprising 'unbleached virgin Kraft pulp' therefore reads on Merdem et al.

For the reasons stated above for claim 1, claim 2 is also not obvious over Merdem in view of Cooper and Arneson.

With regard to Claim 3, the Examiner states that the beverage carrier further comprises a layer of water absorbent material (air) disposed on the inner surface of the inner layer.

Merdem would teach away from this since he would not want the inner layer to absorb the contents of the container. In fact Merdem teaches the use of an adhesive as the final inner layer. The purpose of this is to keep the liquid away from the outer layers of Merdem. The purpose of the water absorbent material of claim 3 is that the beverage carriers are sometimes refrigerated, and therefore, water condenses on the cans. The water absorbent layer in the carrier can absorb this condensation. For this reason and the reasons stated above, claim 3 is not obvious over Merdem in view of Cooper and Arneson.

With regard to Claim 4, the Examiner states that the beverage carrier comprises a film of water resistant adhesive (the innermost polyolefin layer) bonding the absorbent material to the base layer.

For the reasons stated above, claim 4 is not obvious over Merdem in view of Cooper and Arneson.

The present invention relates to a laminated paperboard package having enhanced graphics. A sheet of clay coated or super calendared publication paper is printed with graphics, preferably by a high speed web offset printer. When producing beverage carrier, the cellulosic substrate preferably consists of one or more plies of unbleached virgin Kraft pulp, while when producing a product such as a cereal box, the cellulosic substrate can be formed of one or more plies of recycled fibers. At the box manufacturing site, the printed paper is continuously applied to a surface of the moving cellulosic substrate and bonded to the substrate by an adhesive, which preferably takes the form of hydrolyzed starch, to provide a laminated product.

Beverage cans can be introduced into the beverage carrier in a refrigerated state. Moisture may condense on the cans, which can cause warping or disfiguration of the box. To overcome this problem, a layer of water absorbent, cellulosic material, such as Kraft paper, corrugated medium, or newsprint can be applied to the inner surface of the cellulosic substrate prior to cutting and folding of the laminated sheet. The water absorbent cellulosic layer is applied to the inner surface of the substrate through use of a water resistant adhesive. The water absorbent layer will absorb any moisture, which may condense on the cans. A water resistant adhesive can take the form of an epoxy resin, urea formaldehyde resin or the like.

A layer or film of water resistant material, such as polyethylene film, can be applied to the inner face of the cellulosic substrate prior to cutting and folding of the laminated material.

The invention provides enhanced graphics for paperboard packaging by use of high speed printing on publication paper, which is then bonded to the cellulosic substrate through an adhesive, which preferably takes the form of hydrolyzed starch.

Applicant believes that the application is now in condition for allowance.

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December 16, 2003

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